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Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1-28. (Canceled)

29. (Previously Presented) A device for hearing evaluation of a subject comprising:  
means for repeatedly delivering an auditory stimulus;  
means for sampling an EEG response to said stimulus; and  
means for detecting when non-physiological noise is associated with said EEG response.
30. (Previously Presented) The device according to claim 29, further comprising means for indicating when said non-physiological noise has been detected.
31. (Previously Presented) A device for hearing evaluation of a subject comprising:  
means for repeatedly delivering an auditory stimulus;  
means for sampling an EEG response to said stimulus; and  
means for detecting when non-physiological noise is associated with said EEG response, for automatically determining the amount of said

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non-physiological noise, and for automatically determining when said amount is excessive relative to a threshold.

32. (Previously Presented) The device according to claim 31, wherein said threshold is derived from normative data.
33. (Previously Presented) A device for hearing evaluation of a subject comprising:  
means for repeatedly delivering an auditory stimulus;  
means for sampling an EEG response to said stimulus, said EEG response including a noise component;  
means for determining the polarity bias of said noise component; and  
means for detecting the degree of polarity bias in said noise component, and for determining when said bias is excessive relative to a threshold.
34. (Previously Presented) The device according to claim 33, wherein said threshold is derived from normative data.
35. (Canceled)
36. (Currently Amended) A device for hearing evaluation of a subject comprising:  
means for repeatedly delivering an auditory

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stimulus;

means for sampling an EEG response to said  
stimulus; and

means for detecting the ambient acoustic noise  
associated with said EEG response, for  
determining the signal energy of said ambient  
acoustic noise, and for determining if said  
signal energy is excessive relative to a  
threshold; The device according to claim 35,  
where the means for detecting the ambient  
acoustic noise is a microphone.

37. (Previously Presented)

The device according to claim 36, where the means  
for determining if the signal energy associated  
with the ambient acoustic noise is excessive  
relative to a threshold operates by taking samples  
of the ambient acoustic noise at a time that  
interferes with the delivery of the stimulus.

38. (Previously Presented)

The device according to claim 37, where the  
means for determining if the signal energy  
associated with the ambient acoustic noise is  
excessive relative to a threshold operates by  
taking samples of the ambient acoustic noise both  
before and during the time that the auditory  
stimulus is delivered.

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39. (Previously Presented) The device according to claim 38, where the means for determining if the signal energy associated with the ambient acoustic noise is excessive relative to a threshold operates by analyzing a weighted energy sum of said samples.
40. (Previously Presented) A device for hearing evaluation of a subject comprising:  
means for repeatedly delivering an auditory stimulus;  
means for sampling an EEG response to said stimulus, said EEG response including a noise component;  
means for detecting the magnitude of said noise component;  
means for determining the polarity bias of said noise component;  
means for determining when adverse evaluation conditions are present, based upon both said noise magnitude and said noise polarity bias.
41. (Currently Amended) The device according to claim 28, 29, 31, 33, ~~35~~ 36, or 40, further comprising means for determining the presence of an ABR waveform.
42. (Canceled)

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43. (Currently Amended)

A method for hearing evaluation of a subject,  
comprising the steps of  
repeatedly delivering an auditory stimulus;  
measuring the EEG response to said stimulus;  
detecting the noise associated with said EEG  
response;  
automatically detecting the amount of said  
noise; and  
automatically determining that said amount is  
excessive relative to a threshold; ~~The method~~  
~~according to claim 42;~~ wherein automatically  
determining that said noise amount is  
excessive relative to a threshold comprises  
computing a composite signal noise variance.

44. (Previously Presented)

The method according to claim 43, wherein  
automatically determining that said noise amount  
is excessive relative to a threshold further  
comprises comparing the composite signal noise  
variance to a predetermined threshold, and  
determining that the composite signal noise  
variance is greater than said threshold.

45. (Previously Presented)

The method according to claim 45, further comprising  
the step of determining if said EEG response contains  
an ABR waveform.

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47. (Previously Presented)

A method for hearing evaluation of a subject, comprising the steps of:

- repeatedly delivering an auditory stimulus;
- measuring EEG responses to said stimulus,
- said EEG responses having amplitudes;
- detecting noise associated with said EEG responses;
- determining a degree of polarity bias in said noise; and
- determining when said bias is excessive relative to a threshold.

48. (Previously Presented)

The method according to claim 47, whereby determining when said polarity bias is excessive relative to a threshold comprises:

- digitizing said EEG response;
- transforming said digitized EEG response into a series of binary numbers corresponding to the polarity of the amplitude of said EEG response;
- transforming said binary numbers into an array of polarity sums;
- determining the bias in said array of polarity sums; and
- comparing said bias to a predetermined

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threshold.

49. (Previously Presented)

The method according to claim 47, whereby determining when said polarity bias is excessive relative to a threshold comprises:

determining the difference between the mean and the median amplitude in said EEG responses; and

comparing said difference to a predetermined threshold.

50. (Previously Presented)

The method according to claim 47, further comprising the step of pausing the testing in response to detecting excessive levels of polarity bias in said noise.

51. (Previously Presented)

The method according to claim 47, further comprising the step of determining if said EEG response contains an ABR waveform.

52. (Previously Presented)

A method for hearing evaluation of a subject, comprising the steps of

repeatedly delivering an auditory stimulus;

measuring EEG response to said stimulus;

detecting the noise associated with said EEG response;

determining the amount of said noise;

determining the degree of polarity bias in said

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noise;  
determining when adverse evaluation  
conditions are present, based upon both said  
noise amount and said noise polarity bias.

53. (Canceled)

54. (Currently Amended)

A method for hearing evaluation of a subject  
which comprises the steps of  
repeatedly delivering an auditory stimulus to a  
subject:  
measuring an EEG response to the stimulus  
said response having a amplitude polarity at  
each point in time:  
digitizing said EEG response:  
transforming said digitized EEG response into  
a series of binary numbers corresponding to  
the polarity of the amplitude of said EEG  
response:  
transforming said binary numbers into an  
array of polarity sums:  
detecting the noise associated with said EEG  
response:  
determining the amount of said noise:  
automatically detecting when said amount is



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excessive relative to a threshold;  
accounting for any excessive amounts of said  
noise; and  
determining if an EEG response contains an  
ABR waveform by comparing the array of  
polarity sums against normative data; The  
method according to claim 53, wherein the step  
of accounting for excessive amounts of said  
noise comprises pausing the evaluation.

55. (Currently Amended)

A method for hearing evaluation of a subject  
which comprises the steps of  
repeatedly delivering an auditory stimulus to a  
subject;  
measuring an EEG response to the stimulus  
said response having a amplitude polarity at  
each point in time;  
digitizing said EEG response;  
transforming said digitized EEG response into  
a series of binary numbers corresponding to  
the polarity of the amplitude of said EEG  
response;  
detecting the noise associated with said EEG  
response;

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determining the amount of said noise;  
automatically detecting when said amount is  
excessive relative to a threshold;  
accounting for any excessive amounts of said  
noise; and  
determining if an EEG response contains an  
ABR waveform by comparing the array of  
polarity sums against normative data; The  
method according to claim 53, wherein the  
step of accounting for excessive amounts of  
said noise comprises rejecting a portion of said  
array of polarity sums.

56. (Previously Presented)

A method of evaluation for hearing loss which  
comprises the steps of

repeatedly delivering an auditory stimulus to a  
subject;  
measuring an EEG response to the stimulus  
said response having an amplitude polarity at  
each point in time;  
digitizing said EEG response;  
transforming said digitized EEG response into  
a series of binary numbers corresponding to  
the polarity of the amplitude of said EEG  
response;

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transforming said binary numbers into an  
array of polarity sums;  
detecting the noise associated with said EEG  
response;  
detecting the degree of polarity bias in said  
noise;  
determining when said bias is excessive  
relative to a threshold;  
accounting for any excessive bias; and  
determining if an EEG response contains an  
ABR waveform by comparing the array of  
polarity sums against normative data.

57. (Previously Presented)

The method according to claim 56, wherein the  
step of accounting for any excessive polarity bias  
comprises pausing the evaluation.

58. (Previously Presented)

The method according to claim 56, wherein the  
step of accounting for any excessive polarity bias  
comprises rejecting a portion of said array of  
polarity sums.

59. (Canceled)

60. (Currently Amended)

A method for evaluation for hearing loss  
comprising the steps of  
repeatedly delivering an auditory stimulus to a  
subject;

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measuring an EEG response to the stimulus;  
detecting the ambient acoustic noise associated  
with said EEG response;  
determining the signal energy of said ambient  
acoustic noise; and  
determining if said signal energy exceeds a  
predetermined threshold; The method  
according to claim 59, wherein the ambient  
acoustic noise is sampled both before and  
during the time the auditory stimulus is  
delivered.

61. (Currently Amended)

A method for evaluation for hearing loss  
comprising the steps of  
repeatedly delivering an auditory stimulus to  
a subject;  
measuring an EEG response to the stimulus;  
detecting the ambient acoustic noise associated  
with said EEG response;  
determining the signal energy of said ambient  
acoustic noise; and  
determining if said signal energy exceeds a  
predetermined threshold; The method  
according to claim 59, wherein the ambient  
acoustic noise is sampled before the auditory

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stimulus is delivered.

62. (Currently Amended)

A method for evaluation for hearing loss  
comprising the steps of  
repeatedly delivering an auditory stimulus to a  
subject;  
measuring an EEG response to the stimulus;  
detecting the ambient acoustic noise associated  
with said EEG response;  
determining the signal energy of said ambient  
acoustic noise; and  
determining if said signal energy exceeds a  
predetermined threshold; The method  
according to claim 59, wherein the ambient  
acoustic noise is sampled during the time the  
auditory stimulus is delivered.

63. (Previously Presented)

The method according to claim 60, wherein the samples are taken during three, approximately 20 millisecond windows of time.

64. (Previously Presented)

A system for hearing evaluation of a subject comprising:  
a transducer having an audible click output stimulus;  
an electrode system adapted to detect an EEG response to said stimulus; and

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a processor, responsive to said EEG response,  
having

means for sampling the EEG response;  
means for processing the sampled EEG  
response and identifying therein a noise  
component and an evoked ABR  
component; and  
means for automatically determining  
when said noise component contains a  
non-physiological component.

65. (Canceled)